

Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method of forwarding a data packet, said method comprising:

receiving the data packet, wherein the data packet includes a unicast destination address corresponding to a mobile node;

generating a link-layer frame, wherein the link-layer frame includes a broadcast address and the unicast destination address; and

sending, via the broadcast address, the link-layer frame to a plurality of access devices, wherein at least one access device of the plurality of access devices supports the mobile node, and wherein the broadcast address is configured such that each of the plurality of access devices does not have to join the broadcast address in order to process the link-layer frame.

2. (Previously Presented) The method according to claim 1, wherein said broadcast address is predefined.

3. (Previously Presented) The method according to claim 1, further comprising:

determining that the at least one access device supports the mobile node; and

forwarding the link-layer frame to the mobile node.

4. (Previously Presented) The method according to claim 1, wherein said data packet is an IP data packet.

5. (Previously Presented) The method according to claim 1, wherein said broadcast address is a link-layer address.

6. (Previously Presented) The method according to claim 1, wherein said plurality of access devices store mappings between supported destination addresses and link-layer addresses corresponding to the supported destination addresses.

7. (Previously Presented) The method according to claim 1, wherein said unicast destination address is a network layer address.

8. (Previously Presented) The method according to claim 1, wherein the data packet further comprises a payload, and further wherein the payload is included in the link-layer frame.

9. (Previously Presented) The method according to claim 1, further comprising encapsulating said data packet into the link-layer frame.

10. (Previously Presented) The method according to claim 1, wherein said link-layer frame is discarded by an access device from the plurality of access devices if the access device does not support the mobile node.

11. – 14. (Canceled)

15. (Previously Presented) A routing device for forwarding a data packet, said routing device comprising:

a receiving unit configured to receive the data packet, wherein the data packet includes a unicast destination address corresponding to a mobile node;

a checking unit configured to determine whether a link-layer address corresponding to the mobile node is available;

an addressing unit configured to generate a link-layer frame if the link-layer address corresponding to the mobile node is not available, wherein the link-layer frame includes the unicast destination address and a broadcast address; and

a forwarding unit configured to forward, via the broadcast address, the link-layer frame to a plurality of access devices, wherein at least one access device of the plurality of access devices supports the mobile node, and wherein the broadcast address is configured such that each of the plurality of access devices does not have to join the broadcast address in order to process the link-layer frame.

16. – 21. (Canceled).